

CONCEPT OF THE ŚĀSTRA

The term *śāstra* derived from *śās*, to rule or to instruct, by adding the *unādi* (4-159) suffix *ṣṭrn* is analysed as *śiṣyate anena*. A more fanciful etymology of this term is suggested as « what instructs and protects »¹. This is generally translated as science and includes religious or secular treatise. It represents organized and systematic body of knowledge, branch of learning and so on. A wide variety of the *śāstras* includes such exact sciences as Physics, Chemistry, Astronomy and Mathematics, Social Sciences, such as, Economics and Politics, Life Sciences, like *Āyurveda*, sciences of language, such as, phonetics, linguistics, grammar and etymology, practical arts and crafts or *śilpaśāstra*, speculative systems represented by the philosophical schools, vast religious and mythological literature, *Purāṇas*, Epics, *Tantra*, *Āgamas*, *Koṣas* and so on. The only exception to the category of *śāstra* seems to be *kāvya*, representing artistic creation and *loka* wordly phenomenon². *Veda* (including *Āgama*, *Śruti*, *Nigama*), *tantra*, *vidyā*, *saṃhitā*, *vidyāsthāna* and *kalā* may be broadly treated as synonyms of the *śāstra*³. So far as the linguistic form is concerned *sūtra* in prose epitomized

1. *Yacchāsti vaḥ kleśaripūnaśeṣān saṃtrāyate durgatito bhavācca / tacchāsanāt trāṇaguṇācca śāstrametadvayaṃ cānyamateṣu nāsti //* Nāgārjuna, *Mādhyaṃaka-kārikā* 5.

2. See appendix, *sūkti* nos 25, 27, 29-31 and 45.

3. See *Manu* 12.94 & 99; *Jaimini Sūtra* 1.2.2; *Śāṅkarabhāṣya* on the *Vedānta-Sūtra* 1.1.3.

by *kalpasūtras* and the *sūtras* of Pāṇini appears first and is followed by the *śloka* and *Āryā* metres which are termed as *kārikā* or even *sūtra*. But the *sūtra* form was never given up. It was adopted by the Buddhist and Jain traditions also as illustrated by the *Suttapiṭaka* a « basket of doctrinary lectures », and the *Sūtra-kṛtāṅga*⁴. In later ages it was accompanied by auto-comments (*vṛtti*, *vivṛtti*, *vivarāṇa*) of the author of the *sūtras* with necessary illustrations. Reputed *śāstric* works were commented upon by other scholars. Medieval age of scholasticism is marked by plethora of commentaries and sub-commentaries thereon. Orthodox Brahmanical schools refer to Vedas as omniscient, self-valid, infallible and eternal science or *Sāstra* which are the ultimate source of and final authority for all the knowledge including that of the six *Vedāṅgas* or limbs of the Vedas, the four *Upavedas*, *vidyāsthānas* or branches of learning and so on⁵. Non-Vedic *śāstras* propounded by the Buddhists, Jainas and others are unreliable and invalid in orthodox view⁶. This is, however, not borne out fully by the facts of the evolution of the *śāstras* in India. The Vedic literature consisting of the *Samhitās*, *Brāhmaṇas*, *Āraṇyakas* and *Upaniṣads* is not uniform. It does not represent one consistent thesis. It shows change and evolution. The mood of prayer in the *mantras* is hardly reflected in the ritualistic explanations of the *Brāhmaṇas* or these in turn hardly form the symbolism of the *Āraṇyakas* or the mysticism of the *Upaniṣads*. There is no real thematic unity and continuity in the evolution of the Vedic literature. Vedas changed their form and content through continuous evolution and self-criticism. The constituent elements of the Vedas

4. See KŌGEN MIZUNO, *Buddhist Sūtras, origin, development, transmission*, Tokyo, Kosee Publishing Co. Ltd., 1982.

5. *Mahābhārata* (*Sāntiparvan*, Ch. 122) mentions that eighteen *Vidyās* (i.e. six *Vedāṅgas*, four Vedas, *Mīmāṃsā*, *Nyāya*, *Purāṇa*, *Dharmaśāstra*, *Āyurveda*, *Dhanurveda*, *Gandharva Veda* and *Arthaśāstra*) were elaborated by *Maheśvara* which were again elucidated into 300 *śāstras* and 70 *Tantras* into thousands of ways and that these are all derived from the Veda: *Saśvad abhyasyate loke veda eva tu sarvaśaḥ* and these *śāstras* may therefore be termed as *vedavādas* or elaborations of the Veda.

6. See *Prasastapādabhāṣya* and *Kandalī* thereon, p. 428; (I.3.4); *Nyāya-tātparyāṭikā*, II. 1.68; *Kumārila* (I.3.4) includes *Sāṃkhyayoga*, *Pāñcarātra* and *Pāśupatas* also along with the Buddhists; *Kusumāñjali* II.3; *Ātmatattvaviveka* pp. 430-33; *Sāṃkhyatattvakumudī* on *Kārikā* 5.

took shape in different times and different places to respond to different needs. It is, therefore, no surprise that the Pūrvamīmāṃsā declares primarily on the basis of the *Brāhmaṇas* that action is the sole end of the *śruti* (*Jaimini Sūtra* 1.2.1) whereas the Uttaramīmāṃsā based on the *Upaniṣads* holds that the Vedas reveal *Brahman* or knowledge which is never defiled by action. This mutually contradictory and even hostile approach to the Vedas amongst its closest adherents is possible because the nature of each constituent is different from the other. *Upaniṣads* are themselves critical of the Vedic knowledge and ritualism⁷. The theistic Gītā is similarly critical of the ritualistic Vedism, although it declares unequivocally that the *śāstra* is the real authority to determine right and wrong⁸. Cārvāka, Buddhists and the Vaiśeṣikas did not accept *śabda*, scriptural authority, as a means of knowledge. Jains who accept the *śabda pramāṇa* posit their faith in their own *Āgamas* (religious literature). The attitude of the heterodox schools of Indian philosophy is hostile to the Vedic authority. The Tantric tradition, post-Śaṅkara schools of Vaiṣṇava Vedānta, Śaiva and Vaiṣṇava religious sects, Pāñcarātras, and the Bhakti movement derived its inspiration mainly from the non-Vedic sources. Their relation with the Vedas and attempts at reconciliation with the Vedic tradition are superficial. Similarly the « Purāṇas have only a superficial acquaintance with the Vedas »⁹. One orthodox school accuses the other of going against the Vedic meaning. *Mahābhārata*, *Nāṭyaśāstra*. *Sāhityaśāstra* were declared as the fifth *Veda*, different from the four Vedas. *Āyurveda*, although treated first as *Upaveda*, secondary to *Veda*, asserted itself as an independent *Veda*. All this signifies that notwithstanding the efforts at reconciliation with the Vedas and occasional lip-service to the authority of the Vedas, these were more of a symbol or a myth than the real factual source in the development of the *Śāstras*

7. *Muṇḍaka* I.1.5 specifies knowledge derived from the four Vedas and the six Vedāṅgas as inferior (*aparā vidyā* which is equivalent to *avidyā*). See also *Īśāvāsyā* 9-11; *Kaṭha* 2.4.5; 2.22; *Chāndogya* VII.1.3.4.

8. See *Bhagavadgītā* II, 42-46; XI, 48; XV, 20; XVI, 23-24.

9. R. C. HAZRA, *Puranic records*, p. 222.

in India¹⁰. This shows that the *śāstras* including the philosophical systems carved out their own destiny. In doing so they compromised their position slightly formally and occasionally so that the intellectual and cultural link with the Vedas may be maintained even with regard to the secular subjects. Vedas in the orthodox *śāstras* were admitted as an authority (*Āgama*, *śabda*) for knowledge but were never allowed to impose uniformity of thought, meaning or style. Reason was not only an aid to the authority of the scriptures. It was also the other way round. The scriptures, even when not abused or held guilty, were bended to yield the desired meaning which was sought by a *śāstra* on other grounds. Independence and reasoning were not compromised in order to proclaim faithfulness to the tradition. This does not, however, mean that there is complete or sharp or revolutionary break from the Vedic tradition. Marginal, occasional, symbolic, mythical and dialectical relationship has always existed between the Vedas and subsequent development of the *śāstras*. Even the heterodox schools for that matter imbibed certain features of form and content of the Upaniṣadic idealism. Asceticism of the Jainas and the Buddhists can also be traced back to the *Upaniṣads*. It was on the pattern of the Vedic authority that the Jainas developed their own *Āgamas* and accepted *śabda* as a *pramāṇa*, which in a sense undermines the supremacy of the reason. This is also evident from their acceptance of the right faith as a prerequisite of right knowledge.

Dialectical tension persists in the origin and development of the *śāstras* as a result of continuous though contrived efforts at reconciliation and synthesis with the past represented in orthodox schools by the Vedic authority and acceptance of *śabda* as a *pramāṇa* on the one hand an overpowering necessity for change, assertion of supremacy of reason over authority, conflict between opposite points of view within the orthodox schools and outside of it on the other. Even such *śāstras* which are based primarily on the reasoning, observation and experimentation, *Āyurveda*, for example, are constrained to quote the authority and accept *śabda* in order to justify their position.

10. See LOUIS RENOU, *The Destiny of the Veda in India*, Delhi, Motilal Banarsidass, 1965.

The six *Vedāṅgas*, limbs of Veda, i.e. *śikṣā*, phonetics, *kalpa*, science of rituals with its fourfold division of *Śrauta*-, *Gṛhya*-, *Dharma*-, and *Sulva-sūtras*, *vyākaraṇa*, grammar, *nirukta*, etymology, *chandas*, metrics, and *jyotiṣa*, astronomy, originated in the Vedic schools, *carāṇas* or *śākhās* and in some special technical Schools of the *Vaiyākaraṇas*, grammarians, *Nairuktas*, etymologists and the *Yājñikas*, experts in the science of sacrifice, referred to by Yāska in his *Nirukta*. These *Vedāṅgas* as a body of knowledge were better organized than the Vedas and systematized the matters within their scope. Sāyaṇa in his commentary on the *Baudhāyanasūtra* explains that since the Brāhmaṇas were numerous and since the rites prescribed by the Vedas could not be easily comprehended through them, therefore, the *Kalpasūtras* were written which had such advantages as being clear, short, complete and correct¹¹. Belief in degeneration of the values with the advent of the age of Kali, gradual decline of powers of perception and understanding, necessity for providing short treatise in view of very extensive literature on a subject are generally cited as the basis for writing a *śāstra*. There is no doubt about the Vedic origin of the *Vedāṅga* but it is significant to note that many extant works of the *Vedāṅga* are of late origin (such as *Śikṣās* ascribed to Pāṇini and others, the *Chandas-Sūtra* of Piṅgala and the *Aṣṭādhyāyī* of Pāṇini). Even in the face of Patañjali's assertion that Pāṇini deals with both Vedic and *laukika* (non-vedic) words it can be said that the *Aṣṭādhyāyī* is mainly concerned with the *Bhāṣā* (classical Sanskrit) than the *Chandas* (Veda)¹². There are a number of *Sūtras* which refer to the Vedic accent exclusively but it is a very insignificant part of the whole where we have little or no treatment of the Vedic grammar. *Chandas-Sūtra* of Piṅgala treats mainly Prakrit and Sanskrit metres and includes only a few of leading Vedic metres. Closely allied to the *Vedāṅga* is the concept of *Upaveda*

11. *Tataśca coditānāṃ karmaṇāṃ sukhāvabodhāya bhagavān baudhāyanaḥ kalpamakalpayat / yato brāhmaṇānāmānantyaṇ durāvabodhatayā [...] ato na taiḥ sukhaṃ karmāvabodha iti kalpasutrāṇīmāni pratiniyataśākhāntarāṇyaṅgicakruḥ pūrvācāryāḥ / kalpasya vaiśadya-lāghava-kārtsnyaprakaraṇaśud-dhyādibhiḥ prakarṣairyuktasya /*

12. *Nirukta* I.20; *Mahābhāṣya* I; *Nāṭyaśāstra* I.8-12 (N.S. ed); *Vākyapadiya* II.478-484 (University of Poona, Sanskrit Series, Vol. II).

implying Vedic linkage of *Āyurveda*, science of life, *Dhanurveda*, science of archery, *Gandharva-Veda*, science of music, and the *śāstra-śāstra*, science of arms, which according to the *Caraṇavyūha* (xxxvk.4) are related to the *R̥k-*, *Yajur-*, *Sāma-*, and *Atharva Vedas* respectively. While *Caraka*, *Suśruta*, *Bhāvaprakāśa* and *Aṣṭāṅgahṛdaya-sūtra* (8.8) declare *Āyurveda* as the subordinate limb of the *Atharvaveda*, the *Kāśyapaśaṃhitā* and the *Brahmavaivartapurāṇa* (1.16.9-10) consider the *Āyurveda* to be the fifth *Veda* (*Pañcama Veda*). This notion of fifth *Veda* propagated to gain respectability is also applied to *Mahābhārata*, *Nāṭyaśāstra* and the *Sāhityaśāstra*. This implies more of independence and difference in character of these sciences than their dependence on the Vedic authority, although it is always declared that these constitute the essence of the Vedas. Some other *śāstras*, such as *Arthaśāstra*, *Kāmaśāstra* do not lay claim to their Vedic origin. There is, however, a pathetic anxiety amongst some puritans and obscurantists to trace everything, even the latest scientific and technological discovery to the Vedas. Such a belief is extremely dangerous more particularly in secular fields because this means that all knowledge is rooted in the hoary past and that it can never grow, it can not be forward-looking and futuristic. Acceptance of verbal testimony has fortified this belief. However, inspite of this belief, new *śāstras* continued to flourish exercising their independence by way of either interpreting the past or by open and hostile criticism.

Chāndogya Upaniṣad (VII.1.2., repeated in VII.1.4, VII.2.1. and 7.7.1) gives a long list of the *viññāna*, knowledge derived from the *śāstras*. Nārada says to Sanatkumāra (VII.1.2) — « Sir, I know the *R̥gveda*, the *Yajurveda*, the *Sāmaveda*, the *Atharvaveda*, *Itihāsa-Purāṇa* as the fifth, the *Veda* of the *Vedas* (i.e. Grammar). Propitiation of the manes, Mathematics (*rāśi*), Augury (*Daiva*), Chronology (*nidhi*), Logic (*Vakovākya*), Polity (*ekāyana*), Science of the Gods (*deva-vidyā*, etymology according to Śaṃkara), the Science of Veda (i.e. *Śikṣā*, *kalpa* and *chandas* according to Śaṃkara), Demonology (*bhūtavidyā*), the science of Rulership (*kṣatratridyā*; *Dhanurveda* according to Śaṃkara), Astrology (*nakṣatratridyā*), the Science of Snake-charming and the Fine Arts (*Sarpa-devajana-Vidyā*) ». The list of the *Bṛhadāranyaka Upaniṣad* (II.4.10 recurring

in IV.1.2 and IV.5.11 and also in *Maitrī Upaniṣad* VI.32) perhaps includes "grammar to Fine Arts" given in the list of the Chāndogya Upaniṣad, under *vidyā* and further adds *Upaniṣads*, verses, *sūtras*, explanations and commentaries to the list. Thus another term which may be treated as synonym for the *śāstra* is *vidyā*. Nyāya enumerates four *vidyās* (i) *Ānvikṣikī*, logic and metaphysics, (ii) *Trayī*, the triple Vedas, (iii) *Vārtā*, sciences of agriculture, commerce, medicine, etc. (iv) *Daṇḍanīti*, the science of government. Manu adds *Ātma-vidyā*, science of spirituality, to this list. According to others, *vidyā* has fourteen divisions, viz., the four Vedas, the six Vedāṅgas, Dharmaśāstra, Purāṇa, Mīmāṃsā and Nyāya (Nandipurāṇa; Yājñavalkya Smṛti, 1.3). By adding four *upavedas* to this list the *Vidyā* has eighteen divisions (*Vidyāsthānas*). This implies that the concept of *śāstra* was extended to include philosophy, purely secular subjects like agricultural sciences, political sciences and economics and the *Purāṇa*, mythology, which were not earlier included in the Vedāṅga concept. Śilpaśāstra, practical arts and crafts, included under the *upaveda*, was further elaborated under the term *kalā*. *Kāmaśāstra* (I.3.17) and *Saivatantra* mention the sixty-four *kalās* which include science of architecture and metallurgy and the technology of manufacturing weapons.

The enunciation of the *trivarga*¹³ or three objects of human life to which was added at a later stage *mokṣa*, liberation, as the fourth and final goal under the impact of asceticism and spirituality, sought to establish one of these four objects as the subject of a *śāstra*. While Dharmaśāstra deals mainly with the Dharma, Arthaśāstra with the *artha*, Kāmaśāstra with the *kāma*, matters falling within the domain of one *śāstra* are also treated in the other. Hence the dictum: *śāstram śāstrāntarānubandhi*¹⁴, one *śāstra* is related to the other. This interdisciplinary character of many a *śāstra* is dictated not only by the interrelatedness of certain sub-

13. *Hiraṇyakeśi Gṛhyasūtra* II.19.6 mentions the *trivarga* for the first time. It is accepted in the Purāṇas and Smṛtis of Viṣṇu and Manu and is alluded to in the Gītā. The set of four values of human life with the supremacy of the *mokṣa* is axiomatic in classical Sanskrit literature and consequently *śāstra* is defined as what teaches the means of and warns against the obstacles to the *caturvarga*, set of the four values.

14. See Appendix, *Sūkti* No. 16.

jects but also because the *trivarga*, set of three values or the *puruṣārtha-catuṣṭaya*, set of four values, of human existence was integrated and harmonized. Thus it is said that the Mahābhārata contains all the four values, *Vātsyāyana* (3rd century A.D.) pays collective obeisance to the *trivarga* at the very outset and Kṛṣṇa declares in the *Gītā* (7.11) that « I am *kāma* uninimical to Dharma ». The first three values are believed to lead to the final and ultimate end of human existence, the *mokṣa*. All the philosophical schools except the Cārvaka believe in this ideal and are thus declared the *mokṣa-śāstras* i.e. sciences of spirituality¹⁵. This position is seriously questioned and integral relationship between Indian Philosophy and *mokṣa* and characterization of Indian Philosophy as spiritual is disputed on the grounds that there is hardly any school, except the vijñānavādin which denies the independent reality of matter in an ontological sense and that on a comparative study of the role that God plays in the Indian and Western philosophical traditions, one would find that this role in the Indian intellectual tradition in the field of philosophy is far more marginal than in their counterpart systems in the western tradition¹⁶. The great intellectual debate between the Buddhists and the Naiyāyikas lasting from the fifth to the eleventh century and then the development of Navyanyāya which covers a period of nearly five hundred years, from twelfth century to the seventeenth century A.D. and its contribution to logical thought to practically all the branches of learning, disprove exclusive concern of the Indian philosophy with *mokṣa* and spirituality. The great intellectual debate carried on

15. See *Sāṃkhya-pravacanabhāṣya*, Delhi, Bharatiya Vidya Prakashan, 1977, p. 7.

16. See DAYA KRISHNA, (i) *Three conceptions of Indian Philosophy*, in « Philosophy East and West », (January 1965), pp. 37-51; (ii) *Three Myths about Indian Philosophy*, in « Diogenes ». For opposite view see KARL H. POTTER, (i) *Indian Philosophy's alleged Religious orientation*, in « Philosophic Exchange », vol. I, No. 3 (Summer 1972), pp. 159-174 (The Journal of the Centre for Philosophic Exchange of the State University of New York, College of Arts and Science at Brockport, New York, U.S.A.); (ii) *Encyclopedia of Indian Philosophies*, Vol. II, Delhi, Motilal Banarsidass, 1977. Daya Krishna's reply to Karl H. Potter's counter-position is contained in his recent paper, *Indian Philosophy and Mokṣa, revisiting an old controversy*, in « Journal of Indian Council of Philosophical Research », vol. II, no. 1.

by stating all counter-positions (*pūrvapakṣas*) and defending the final position is the very characteristic of a *śāstra* based on reasoning (*tarka*).

The *Nirukta* of Yāska (700 B.C.) is one of the most authoritative, richly documented and closely knit exegetical work. The *Aṣṭādhyāyī* of Pāṇini (500 B.C.) is universally recognized for its thoroughness, with which it investigates the roots of the language and the formation of its words, for its precision of expression, and above all, for its wonderful competence in using a concise terminology and a style which covers the entire material of the language within the shortest possible compass. The well-known definition¹⁷ of the *sūtra* is based on the nature of Pāṇini's *Sūtras*. This emphasizes economy of words, clarity, meaningfulness, comprehensiveness, consistency and flawlessness. The vast literature in Sanskrit written in the *sūtra* form, e.g. the *Kalpa Sūtras*, Pāṇinian *sūtras* and the earliest formulations of the six systems of Indian Philosophy, bears witness to the concise nature of the *Sūtras* written to memorize and explained through the oral and recorded tradition of interpretation in the unbroken line of teachers and their students. *Upaniṣads* employed a number of methods in their exposition. Amongst these the method of disputation or dialogue, as found in the dialogues between Yama and Naciketas in the *Kathopanishad*, between Āruṇi and Śvetaketu and Nārada and Sanatkumāra in the *Chāndogya* and between Yājñavalkya and Maitreyī and Yājñavalkya and Janaka in the *Bṛhadāraṇyaka* is very important. Amongst other methods are the symbolic¹⁸, the aphoristic, the etymological and the synthetic. The maxims (*nyāyas*) such as *Arun-dhatīnyāya* and analogies (*dṛṣṭānta*) are frequently employed as also the tales (*ākhyānas*) are told to drive home a point. Mīmāṃsā had enunciated various principles of interpretation of philosophy. Nyāyasūtras are pre-eminently devoted to the methods and tech-

17. (i) *Alpākṣaramaṣṍdigdhaṃ sāravadviśvatomukham /
astobhamanavadyaṃ ca sūtraṃ sūtravidō viduḥ //*
quoted in the *Nyāyatātparya-ṭīkā* 1.1.3, and *Padamañjarī* of Haradatta.

(ii) *Laghūni sūcitārthāni svalpākṣarapadāni ca /
sarvataḥ sārabhūtāni sūtrāṇyāhurmanīṣiṇaḥ //*
quoted in the *Yuktidīpikā*, Delhi, Motilal Banarsidass, 1967, p. 2.

18. SATYA PRAKASH SINGH, *Upanisadic Symbolism*, Delhi, 1981.

niques of argumentation, disputation and dialectics. Out of the sixteen *padārthas* of Nyāya, all excepting only the *prameya*, object of valid knowledge, are directly related to the methods of disputation. The *Nyāyabhāṣya* on it further explains the threefold methodology of the Nyāyaśāstra, or of any other *śāstra* for that matter, consisting in enumeration (*uddeśa*), definition (*lakṣaṇa*) and analysis (*parīkṣā*). Kauṭilya in the last fifteenth Chapter of his book the *Arthaśāstra* explains and illustrates the 32 methods, devices or techniques used to elucidate a scientific treatise. These are known as *tantra-yuktis*. The *Suśrutasamhitā* (*Uttaratantra*, Ch. 65) describes closely allied 32 *tantrayuktis*. These are also stated in the *Viṣṇudharmottara* (I.6). The *Carakasamhitā* (*Siddhisthāna*, Ch. 12.78) mentions 36 *tantrayuktis*. The later works like the *Aṣṭāṅgahrdaya* and the *Aṣṭāṅgasanġraha* (49.98) mention 36 *tantrayuktis*. The commentator of Caraka, namely, Cakrapāṇi mentions that an old commentator Bhaṭṭāra Haricandra had added *paripraśna*, counterquestion, *vyākaraṇa*, elucidation, *vyutkrāntābhidhāna*, explication and *hetu*, means of knowledge, to the list of 36 *tantrayuktis*. Kālamegha wrote an independent work called *Tantrayuktivicāra*¹⁹ in view of their importance for scientific methodology. According to S.C. Vidyabhusan²⁰, the *tantrayukti* was compiled possibly in the 6th Century B.C. to systematize debates in the *pariṣads* or the learned assemblies and considers the *tantrayuktis* as the terms of scientific argument. According to S. N. Dasgupta²¹ these are modes of expression and maxims, Dr. Radhakrishnan translates them as technical terms and R. Samashastri as paragraphical divisions of treatises. The *Suśrutasamhitā* states the nature and purpose of the *tantrayuktis* as refutation of the wrong statement of opponent and establishment of his own sentences. In a nutshell the *tantra-yuktis* serve the well-recognized system of stating and meeting the *pūrvapakṣa* and finally establishing a thesis (*siddhānta*). The *tantrayuktis* have been explained and illustrated by Kauṭilya and Caraka in the context of their own *śāstra* but these are of general application. According to the *Arthaśāstra* (1) *prakaraṇa* or topic is

19. Edited by N. E. Muttuswami, Keral State Publication, 1976.

20. *History of Indian Logic*, pp. 211-25.

21. *History of Indian Philosophy*, vol. II, p. 392.

the object with respect to which a statement is made, (2) *vidhāna* or statement of contents is the serial enumeration of the sections of a science, (3) *yoga* is the syntactical arrangement, (4) *padārtha* or a meaning of the word is restricted to technical meaning of a particular term, (5) *hetvartha* is reason proving a thing, (6) *uddeśa* is a statement in brief, (7) *nirdeśa* is a detailed statement, (8) *upadeśa* is general advice for regulating the conduct, (9) *apadeśa* is reference to the opinions of others on a given subjects, (10) *atideśa* is application to a new context (according to *Caraka* it is prognostication), (11) *pradeśa* is indication of what is to be explained later on, (12) *upamāna* (accepted by some as a *pramāṇa*) is analogy which proves the unknown with the help of the known, (13) *arthāpatti* is implication or presumption (accepted by the *Mīmāṃsā* and the *Vedānta* as a distinct means of knowledge) of something not directly mentioned but is understood or implied by the statement, (14) *saṁśaya* is doubt with reasons on both sides, (15) *prasaṅga* is similarity of a situation, (16) *viparyaya* is proving a thing with the help of the opposite, (17) *vākyāśeṣa* consists in supplying a word or an idea not expressly mentioned, (18) *anumata* is approval by non-contradiction of other's opinion, (19) *vyākhyāna* is the description of a speciality, (20) *nirvacana* is derivation of a word on the basis of its components, (21) *nidarśana* is illustration by analogical description, (22) *apavarga* is exception to a general rule, (23) *vasaṁjñā* is technical use of a term not sanctioned by others, (24) *pūrvapakṣa* is *prima facie* view meant for rejection, (25) *uttarapakṣa* is the final view in a matter, (26) *ekānta* is an invariable rule that is applicable unexceptionally, (27) *anāgatāvekṣaṇa* is reference to a future statement, (28) *atīkrāntāvekṣaṇa* is reference to a past statement, (29) *niyoga* is direction, such as, « thus and in no other way », (30) *vikalpa* is alternative or optional direction, (31) *samuccaya* is combination of two ways, (32) *ūhya* is understanding of the implicit.

The great significance of the *tantrayuktis* is underlined by *Caraka* (12.86) by saying that without these none can grasp the meaning of a *śāstra*, these are like lamps (66.43) knowledge of which makes a doctor venerable. *Caraka* has discussed in the *Sūtrasthāna* and the *Vimānasthāna* of his *Saṁhitā* important methodological

issues relating to theoretical investigation (*parīkṣā*), the strategy or methods of verification (*siddhi upāya*), standards of investigation (*vimāna*) and the ways of discussion in a friendly and hostile assembly of experts (*vādamārga*). Discussion through dialogue (*samivāda*) has been very popular way of advancing arguments. This is found not only in the *Upaniṣads*, *Gītā* and the *śāstric* works but also in the poems, *Raghuvamśa*, *Kirātārjunīya*, *Śiśupālavadha* and others and is perhaps precursor of the *śāstrārtha*, disputation regarding the meaning of *śāstra*. Even now this is popular in all the traditional centres of Sanskrit learning, such as, Varanasi. The old Ācāryas like Śaṅkara, resorted to *śāstrārtha* in order to establish supremacy of their school of thought or *śāstra*. *Āgama-dambara* (Act I) has given even rules of conducting a debate and disputation. The whole logic and methodology of science, discussed in the *Carakasamhitā* in great details, amply prove the rational and scientific basis of the *śāstra*. Caraka (*Samhitā*, *Siddhisthāna*, *Sūtra* 49) has declared that a *śāstra* like a weapon destroys if badly handled and protects if handled deftly. In the very beginning of the VIII Chapter of the book, *Vimānasthāna*, the question is raised as to how one should determine that a particular *śāstra*, a scientific treatise, is better than the others in the field. In reply to this the characteristics of a good *śāstra* are stated as follows:

*tatra yanmanyeta sumahadyaśasvidhīrapuruṣāsevitamarthabahu-
hulamāptajanapūjitaṃ trividhaśiṣyabuddhihitamapagatapuna-
ruktadoṣamārṣaṃ supraṇītasūtrabhāṣyasaṃgrahakramaṃ svā-
dhāramanavapatitasābdamakaṣṭasābdaṃ puṣkalābhīdhānaṃ
kramāgatārthamarthatattvaviniścayaṃpradhānaṃ saṃgatārtha-
masaṃkulaprakaraṇamāsuprabodhakaṃ lakṣaṇavaccodāhara-
ṇavacca, tadabhiprapadyeta śāstram / śāstram hyevaṃvidha-
mamala ivādityastamo vidhūya prakāśayati sarvam //*

This characterization of a *śāstra* underlines comprehensive treatment of a subject, stylistic perfection, logical order and recognition by experts of great eminence. Arunadatta in his commentary, *Sarvāṅgasundarā*, on the *Aṣṭāṅgahṛdaya* mentions 15 flaws to be avoided in a *śāstra*. These are (1) use of unfamiliar words (*aprasiddha śabda*), (ii) bad composition i.e. lacking in the

objectives of the *sūtra* and *bhāṣya* (*duḥpraṇīta*), (iii) unrelatedness to the aphorism (*asaṅgatārtha*), (iv) harshness in pronunciation (*asukhārohi*), (v) opposition to example, rule and convention (*viruddha*) (vi) over-elaboration (*ativistṛta*), (vii) being extremely brief (*atisamkṣipta*, opposite of the *ativistṛta*) (viii) lacking in proper statement of objectives (*aprayojana*), (ix) lacking in logical order (*bhinnakrama*), (x) doubt on account of fallacies (*saṁdigdha*), (xi) tautology or repetition of the same meaning (*punarukta*) (xi) lacking in evidence (*niḥpramāṇa*), (xiii) lacking in complete or conclusive treatment of a subject (*asamāptārtha*), (xiv) use of a word incapable of conveying the intended meaning (*apārthaka*), and (xv) self-contradiction (*vyāhata*). Some of these flaws are just the opposite of the qualities mentioned by Caraka, others are actual defects. Out of these, *apasiddha śabda*, *asukhārohi* and *apārthaka* relate to the word, *ativistṛta*, *atisamkṣipta*, *bhinnakrama* and *duḥpraṇīta* to the logical and stylistic imperfection and the others to the meaning or content of a *śāstra*. Many of these qualities and flaws of a *śāstra* remind us about the whole scheme of *guṇas* and *doṣas* found in the works of Sanskrit poetics, such as the *Kāvya-prakāśa* (see Ch. VII and XIII) and one can say that many merits and demerits of an artistic work apply equally well to the composition of a *śāstra*. The author of an anonymous commentary *Yuktidīpikā* on the *Sāṁkhya-kārikā* in its introductory verses (9,13,14) declares the latter as a *śāstra*, as distinct from the *Prakarana* (a monograph dealing with one part or topic of a *śāstra*) mainly because it deals with the entire subject-matter of the *sāṁkhya* in a logical order through definitions and characterizes the treatise as concise (*alpa-grantha*), full of contents (*analpārtha*), possessed of all the *tantra-guṇas* and reflecting the original image of *tantra*, i.e. *śāstra* of the great sage Kapila. According to an old *Kārikā* quoted in this commentary (p. 2) the *tantra-guṇas*, merits or characteristics of a *śāstra*, are (1-3) possibility (*upapatti* or *sambhava*) of *sūtra*, *pramāṇa* and *avayavas* i.e. the *śāstra* should contain (i) aphoristic statements which by their very nature will contain *lakṣaṇas* or definitions, (ii) *pramāṇas* on which the thesis is based and (iii) the *avayavas* or parts, which are of two kinds: (a) enquiry (*jijñāsā*), doubt, purpose, possibility of attainment and removal of doubt for

self-understanding, and (b) five members of syllogism for making others understand: i.e. *pratijñā*, proposition (i.e. statement of proposition which is sought to be established) *hetu*, reason, *dr̥ṣṭānta*, verificatory evidence exemplifying the reason, *upasaṁhāra*, showing relevance of the evidence in a given case and *nigamana*, deduction of conclusion. These three terms, namely, *sūtra*, *pramāṇa* and *avayavas* may be said to constitute the logical aspect of the *tantra-guṇas*, (4) *anyūnatā* or completeness, (5-6) mention of doubt (*saṁśaya* is *sāmānyābhīdhāna*), that is general statement, and of decision (*nirṇaya*) that is specific statement which may be expressed or implied, (7-8) *uddeśa*, brief statement and *nirdeśa*, detailed statement (9) *anukrama*, putting the things in sequence, (10) *saṁjñā*, term, which is either rooted in the technical meaning (*arthani-bandhanā*) or is merely conventional (*svarūpanibandhanā*). In a *śāstra* terms are coined and used on the basis of their conceptual significance. The same technical terms are used subsequently in a discipline as there is no fun in coining new terms when the old ones can be usefully employed. (11) *Upadeśa*, statement of the result (*phala*). The commentator has illustrated all these characteristics of a *śāstra* for his text, the *Sāṁkhya-kārikā*. By way of his "iti" used in the *Kārikā* quoted by him, he adds *utsarga*, general rule, *apavāda*, exception and *atideśa*, extended application, to the list of eleven *guṇas* or *sampat* which are identified with the *tantra-yuktis*. He further points out that on account of these *guṇas* the *sāṁkhya* is an independent *śāstra* although it may, like other *śāstras*, such as *yoga*, may have some common points. What really constitutes it as a *śāstra* is the fact that it explains the entire subject-matter of the *sāṁkhya*²². The discussion on the nature of a *śāstra* in the *Yuktidīpikā* emphasizes logical and stylistic perfection, its convincing presentation and completeness in its treatment of the subject. It also points out that one *śāstra* may share certain common points with others but in order to be treated as an independent *śāstra* it should fulfil the basic condition of exhaustive

22. *Siddham tantrayuktinām sambandhopapattestantramidamiti / sakalapadārthasaṁgrahāttantrāntarāṇyetāni, evamihāpi sakalapadārthasaṁgrahāttantrāntaratvamabhyupagantavyam / tasmād yuktametad tantramidam / Yuktidīpikā*, Delhi, Motilal Banarsidass, 1965, p. 5.

treatment of a subject critically examined and logically presented, otherwise it would be either a dependent treatise or a *prakaraṇa* dealing with a topic or two.

It was to lay down the logical structure of a *śāstra* that the concept of four-fold *anubandhas*, preliminaries, was developed. Kumārila says that Jaimini in his very first *sūtra* has stated the subject-matter (*viśaya*) and *prayojana*, objective, and has implied its connection (*saṁbandha*) with the *śāstra* which thus persuades the listeners (see *Ślokavārtika* 1.1.12, 16-19). To this was added the consideration of the *adhikārin* or competent student. This again is implied by the term *atha* in the *sūtra*. Like Mīmāṃsā, Vedānta (see Vedāntasāra) also accepts the scheme of four-fold preliminaries of a *śāstra*. Another closely allied concept is the definition of an *Adhikaraṇa* or chapter of a *śāstra*. Each *Adhikaraṇa* or Chapter consists of live limbs, namely, statement of the subject or topic under consideration (*viśaya*), doubt (*viśaya*) related to it, *prima facie* view (*pūrvapakṣa*), rejoinder (*uttara*) and final conclusion or thesis (*siddhānta*). Thus various methods and standards relating to both the form and content of a *śāstra* were prescribed so that rational, logical, objective and scientific tradition may be maintained.

Science and technology flourished not only in ancient India but it continued to grow with the same vigour throughout the medieval period. According to A. Rahman²³, the projection of science and technology as a European tradition was dictated by political objectives of the colonisers who over-emphasized the mythological and mystical traditions of Indian thought and denigrated the rational and scientific tradition. This distortion of Indian tradition is sharply corrected when we look at the rich wealth of manuscripts in the field of science and technology in medieval India. A Bibliography²⁴ has listed a number (indicated against the name of scien-

23. *Science and Technology in Medieval India - A Bibliography of Source Materials in Sanskrit, Arabic and Persian*, ed A. Rahman, et al., New Delhi, Indian National Science Academy 1982, Introduction, p. xi. See also A. RAHMAN, et al., *Science and Technology in India*, Delhi, Indian Council for Cultural Relations, 1973, also A. RAHMAN, *Trimurti, Science, Technology & Society*, Delhi, Peoples Publishing House, 1972.

24. *Ibid.*, and *A Bibliography of Sanskrit Works on Astronomy and Mathematics*, New Delhi, Indian National Science Academy, 1966.

ce) of manuscripts written in Sanskrit during 8-19 centuries A.D. in agriculture — 15, Architecture — 246, Astronomy — 2136, Botany — 33, Geography including Gemology and Geology — 83, Mathematics — 126, Medicine — 4106, Physics — 103, Zoology — 102. General attitude towards sciences and scientific literature may be summed up in the oft-quoted *sūktis* selected at random from various sources and appended to this paper.

APPENDIX

1. *Vidyayā vindate'mṛtam, Kenopaniṣad 12.*
2. *Vidyayāmṛtamaśnute, Īsopaniṣad 11; Maitryupaniṣad VII, 9.*
3. *Sā vidyā yā vimuktaye.*
4. *Śāstrāṇyadhītya medhāvī, Amṛtopaniṣad 1.*
5. *Yasya nāsti nijā prajñā kevalaṃ tu bahuśrutaḥ /
na sa jñāti śāstrārthaṃ darvī sūparasāniva //*
Mahābhārata, Sabhāparva, 54, 4.
6. *Paṭhakaḥ pāṭhakaścaiva ye cānye śāstracintakāḥ /
sarve vyasanino mūrkhāḥ yaḥ kriyāvān sa paṇḍitaḥ //* *Ibid, 313, 110.*
7. *Śāstradr̥ṣṭānavidvānyaḥ samatītya jighāṃsati /
sa paṭhaḥ pracyuto dharmātkupaṭhe pratihanyate //*
Mahābhārata, Sauptikaparva VI, 20.
8. *Yaḥ śāstravidhimutsṛjya vartate kāmākārataḥ /
na sa siddhimavāpnoti na sukhaṃ na parāṃ gatim //* *Gītā XVI, 23*
9. *Tasmācchāstraṃ pramāṇaṃ te kāryākāryavyavasthitau /
jñātvā śāstravidhānoktaṃ karma kartumihārhasi //* *Gītā XVI, 24.*
10. *Sarvaṃ śāstramavidvadibhirmṛgyamāṇaṃ na siddhyati, Agnipurāṇa 337, 4.*
11. *Sarvameva kalau śāstraṃ yasya yadvacanāṃ dvija, Viṣṇupurāṇa VI, 1, 14.*
12. *Svakarmadharmārjitajīvitānāṃ śāstreṣu dāreṣu sadā ratānām /
jītenḍriyāṇāmātithipriyāṇāṃ grhe'pi mokṣaḥ puruṣottamānām //*
13. *Tarkaśca vādahetuḥ syānnīstivaihiikasādhanam /
purāṇāni mahābuddhe ihāmutra sukhāya vai //* *Bṛhannāradiyapurāṇa 9, 106.*
14. *Kalatrīṇaṃ vā śāstrāṇaṃ śrotṛiṇaṃ vā guṇanvitam /
yo dattvā sthāpayed vṛttiṃ tasya puṇyaphalaṃ mahat //* *Ibid, 13, 28.*
15. *Prabhuḥ svāmī yathā bhṛtyamādiśatyetaḍācara /
tathā śrutismṛti cobhe prāhatuḥ prabhuṣammatam //*
*itiḥsapurāṇādi suhṛtsammitamucyate /
suhṛdavatpratibodhyaīnaṃ pravartayati tattvataḥ
kāvyālāpādikaṃ yacca kāntāsammitamucyate //*
Skandapurāṇa, Mā., Kau., 40, 69-70.

16. i) *bhūyo vidyaḥ praśasyo bhavati, Nirukta;*
 ii) *naikaṃ śāstramadhīyāno gacchati śāstranirṇayam, Caraka;*
 iii) *ekaṃ śāstramadhīyāno na vidyāt śāstranīścayam /*
tasmād bahuśrutaḥ śāstraṃ vijānīyāccikitsakaḥ // Suśruta;
 iv) *ekameva śāstraṃ jānānaḥ na kiṃcidapi śāstraṃ jānāti.*
 v) *śāstraṃ śāstrāntarānubandhi, Daṇḍin, Viśrutacarita;*
 vi) *sarvapārśadaṃ hidaṃ śāstram, Vākyapadīya;*
 vii) *śāstraṃ ca vividhāgamam, Manusmṛti, 12, 105.*
17. i) *maṅgalādīni hi śāstrāṇi prathante, Mahābhāṣya, Paspasāhnikā*
 ii) *maṅgalādīni maṅgalamadhīyāni maṅgalāntāni ca śāstrāṇi*
prathante / Ibid, under Bhuvādisūtra.
18. *Dharmamārthaṃ ca kāmāṇi ca pravartayati pāli ca /*
adharmānarthavidveśānidaṃ śāstraṃ nihanti ca // Arthaśāstra 15, 72.
19. *Śāstraṃ vinayavṛddhaye, Kāmandaka.*
20. *Ākārasadṛśaprajñāḥ prajñayā sadṛśāgamaḥ /*
āgamaḥ sadṛśārambhaḥ ārambhāsadṛśodayaḥ // Raghuvamśa 1, 15.
21. *Senā paricchadastasya dvayamevārthasādhanaṃ /*
śāstreṣvakunṭhitā buddhirmaurvi dhanuṣi cātātā // Ibid, 1.19.
22. *Āgamāpādṛṣṭena khalvadhvanā sukhena vartate lokayātrā /*
divyaṃ hi cakṣurbhūtabhavadbhaviṣyatsu vyavahitaviprakṛṣṭādiṣu ca viṣa-
yeṣu śāstraṃ nāmāpratihatavṛtti / tena hīnaḥ satorapyāyatalocanayorandha
eva janturarthadarśaneṣvasāmārthyāt // Daṇḍin, Daśakumāracarita, Aṣṭa-
mocchvāsa.
23. *Yauvanārāmbhe ca śāstrajalaprakṣālananirmalāpi kālūṣyamupayāti bud-*
dhiḥ, Kādambarī, Sukanāsopadeśa.
24. *Anekaśaṃśayocchedi paroḥṣārthasya darśakam /*
sarvasya locanaṃ śāstraṃ yasya nāstyandha eva saḥ //
25. *Dve vartmanī girāṇi devyāḥ śāstraṃ ca kavikarma ca /*
prajñopajñāṃ taylorādyāṃ pratibhodbhavamantimam //
Bhaṭṭatauta, quoted in Gopālakṛta-Kāvya prakāśa-Vyākhyā.
26. *Samaṣṭiḥ sarvaśāstrāṇāṃ sāhityamiti gīyate.*
27. *Gurūpadeśādadhīyetaṃ śāstraṃ jaḍadhiyo'pyalam /*
kāvyaṃ tu jāyate jātu kasyacitpratibhāvataḥ // Bhāmahālaṃkāra 1, 5.
28. *Śāstreṣu mūrkhāḥ kavayo bhavanti.*
29. *Tatra lokāśrayaṃ kāvyamāgamāstatvadarśinaḥ // Bhāmahālaṃkāra.*
30. *Sabdapṛādhānyamāśritya tatra śāstraṃ prthagviduḥ /*
arthatattvena yukte tu vadantyākhyānametayoḥ /
dvayorguṇatve vyāpārapṛādhānye kāvyadhīrbhavet // Bhaṭṭanāyaka.
31. *Ānandaniṣyandiṣu rūpakeṣu vyutpattimātraṃ phalamalyabuddhiḥ /*
yo'pītiḥsādivadāha sādhusasmai namaḥ svādaparāṇmukhāya //
Daśarūpaka 1,6.
32. *Sarvaśāstrārthasampannaṃ sarvaśilpapravartakam /*
nātyākhyāṃ pañcamaṃ vedaṃ setihāsaṃ karomyaham // Nāṭyaśāstra 1, 55.

33. *Dhigjivitaṃśāstrakalojjhitasya.*
34. *Na śāstraṃ vedataḥ param.*
35. *Mūrkhasya kiṃ śāstrakathāprasāṅgaiḥ.*
36. *Śāstraṃ hi niścitaḍhiyāṃ kva na siddhimeti, Māgha, Siśupālavadha.*
37. *Śāstrādrūḍhirvaliyaṣi.*
38. *Srotrasya bhūṣaṇaṃ śāstram.*
39. *Babhāra śāstrāṇi dṛṣam dvayādhikām, Naiṣadhiyacarita 1, 6.*
40. *Sāhitye sukuṃāravastuni dṛḍhanyāyagrahagaṇṭhile
tarke va mayi saṃvidhātari samaṇi lilāyate bhārati, Sriharṣaviṣaye.*
41. *Sastreṇa rakṣite rāṣṭre śāstracintā pravartate.*
42. *Śāstrānyadhīyāpi bhavanti mūrkhāḥ.*
43. *Kāvyaśāstravinodena kālo gacchati dhimatām, Bhartṛhari, Nīṭisataka.*
44. *Rṣiṇāmapi yajñānaṃ tadapyāgamapūrvakam, Vākyapadīya 1, 30.*
45. *Saktirnipunatā lokaśāstrakāvyaḍyavekṣaṇāt, Kāvya prakāṣa 1, 2.*